All publications and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually incorporated by reference. From the foregoing, it will be evident that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention.

What claimed is:

1. A peptide consisting of five or more consecutive amino acid residues within one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

2. The peptide of claim 1, wherein the peptide consists of eight or more consecutive amino acid residues.

3. The peptide of claim 1, wherein the peptide consists of ten or more consecutive amino acid residues.

4. The peptide of claim 1, wherein the five or more consecutive amino acid residues begin at the second, fourth, sixth, or eighth residue within one of the amino acid sequences.

5. The peptide of claim 1, further comprising a carrier that enhances the immunogenicity of the peptide and, optionally, a linker between the peptide and the carrier.

6. The peptide of claim 5, wherein the carrier is keyhole limpet hemocyanin or ovalbumin and the linker, when present, comprises an amino acid residue.

7. The peptide of claim 6, wherein the linker is a cysteine residue.

8. The peptide of claim 1, wherein the peptide consists of the amino acid sequence CGTQARQGDPSTGPI (SEQ ID NO:__).

9. A nucleic acid molecule that encodes a peptide of claim 1.

10. The nucleic acid molecule of claim 9, further comprising the sequence of an expression vector.

11. A cell comprising the nucleic acid molecule of claim 10.

12. The peptide of claim 1, wherein the peptide consists of one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

AHVFHVKGSLQEES (SEQ ID NO:__);

CGTQARQGDPSTGPI (SEQ ID NO:__);

CGTQARQGDPST (SEQ ID NO:__);

RDKIPEEDRRKMQ (SEQ ID NO:__); and

GSLQEESLRDKIPEE (SEQ ID NO:__).

13. The peptide of claim 12, further comprising a carrier that enhances the immunogenicity of the peptide and, optionally, a linker between the peptide and the carrier.

14. The peptide of claim 13, wherein the carrier is keyhole limpet hemocyanin or ovalbumin and the linker, when present, comprises an amino acid residue.

15. The peptide of claim 14, wherein the linker is a cysteine residue.

16. A nucleic acid molecule that encodes a peptide of claim 12.

17. The nucleic acid molecule of claim 16, further comprising the sequence of an expression vector.

18. A cell comprising the nucleic acid molecule of claim 17.

19. An antibody that specifically binds Hsp70B'.

20. The antibody of claim 19, wherein the antibody is a monoclonal antibody.

21. The antibody of claim 19, wherein the antibody has a relative titre index greater than one.

22. An antibody that specifically binds an Hsp70B' peptide consisting of five or more consecutive amino acid residues within one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

23. The antibody of claim 22, wherein the antibody is a monoclonal antibody.

24. An antibody that specifically binds a peptide that consists of one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

AHVFHVKGSLQEES (SEQ ID NO:__);

CGTQARQGDPSTGPI (SEQ ID NO:__);

CGTQARQGDPST (SEQ ID NO:__);

RDKIPEEDRRKMQ (SEQ ID NO:__); and

GSLQEESLRDKIPEE (SEQ ID NO:__).

25. The antibody of claim 24, wherein the antibody is a monoclonal antibody.

26. A kit for analyzing the expression of Hsp70B', the kit comprising an antibody that specifically binds an Hsp70B' peptide consisting of five or more consecutive amino acid residues within one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

27. The kit of claim 26, further comprising an Hsp70B' protein or an Hsp70B' peptide.

28. A method of obtaining an antibody that specifically binds Hsp70B', the method comprising administering to an animal a peptide consisting of five or more consecutive amino acid residues within one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__).

29. The method of claim 28, wherein the peptide consists of one of the following amino acid sequences:

VPGGSSCGTQARQGDPSTGPI (SEQ ID NO:__);

RDKIPEEDRRKMQDKC (SEQ ID NO:__)

AHVFHVKGSLQEESLRDKIPEEDRRKMQ (SEQ ID NO:__); or

MQAPRELAVGID (SEQ ID NO:__);

AHVFHVKGSLQEES (SEQ ID NO:__);

CGTQARQGDPSTGPI (SEQ ID NO:__);

CGTQARQGDPST (SEQ ID NO:__);

RDKIPEEDRRKMQ (SEQ ID NO:__); and

GSLQEESLRDKIPEE (SEQ ID NO:__).

30. The method of claim 29, wherein the peptide further comprises a carrier that enhances the immunogenicity of the peptide and, optionally, a linker between the peptide and the carrier.

31. The method of claim 28, wherein the antibody is a monoclonal antibody.

32. A method of determining whether a cell has been exposed to a stressful environment or a stressful substance, the method comprising performing an immunoassay in

which proteins in or on the cell or proteins extracted from the cell are exposed to an antibody that specifically binds Hsp70B'.

33. The peptide of claim 5, wherein the carrier is a protein or a sugar.

34. The peptide of claim 13, wherein the carrier is a protein or a sugar.

35. The kit of claim 26, wherein the antibody is a monoclonal antibody.